

Work Order ID 153991

Wednesday, November 30, 2016 4:02:05 PM

U/R

OK 11/11/30

Rush

153991

Page 1

Item ID: D3535-25 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: URF 16-638 Stop ***NS2***
 Item Name: Wearplate Center
 Start Date: 11/24/2016 Start Qty: 21.00 ***21*** Cust Item ID:
 Required Date: 11/30/2016 Req'd Qty: 21.00 ***21*** Customer:
 Reference:

Approvals: Process Plan: **DAS** Date: **DEC 01 2016** Tooling: Date: Run Start ***NR1***
 QC: **21** Date: SPC (Y/N): Date: Stop ***NR2***
9-89

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3535	Rev B U/R								
100	FLOW WATER JET	0.01							
100									
Waterjet	Memo	0.28							
FLOW CNC Waterjet	1-Cut as per Dwg D3535 Dwg Rev: B Prog Rev: B 2- Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110									
QC	Memo	0.03							
Quality Control									
120	QC8- Inspect parts - second check	0.00							
120									
QC	Memo	0.07							
Quality Control									

(22)

on 11/12/05

(22)

on 11/12/05

(22)

11-12-06

DAS
9
9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval 	
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :						
Misidentified	☐	Past Due	☐							

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 Required Date: 11/30/2016 Req'd Qty: 21.00 ***21*** Customer:
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.01							
130	NC BRAKE				DAS 30 9-89	22			DEC 07 2016
Brake NC	Memo	0.07							
Brake NC	1-Form on CNC Brake as per Dwg D3535 using Jigs DT8261 and DT83262- Form joggle on Punch as per Dwg D3535 using Jig DT8158 Identify as D3535-25								
140		0.00							
140	QC5- Inspect part completeness to step on W/O					22			DAS 30 9-89
QC	Memo	0.07							
Quality Control									DEC 07 2016
150		0.00							
150	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3					22	0	16-12-07	DAS 34 9-89
Powdercoat	Memo	0.03							
Powder Coating	START TIME: 10:30 OVEN TEMPERATURE: FINISH TIME: 11:00								

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐				
Date :	Step #:	QTY Effective :			MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			Completed By	
24 06 18-6					Lead hand / Supervisor Approval Verification	
					QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY				
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		☐ OTHER : _____		

Work Order ID 153991

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Item ID: D3535-25 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 16-638 Stop ***NS2***
Item Name: Wearplate Center
Start Date: 11/24/2016 Start Qty: 21.00 ***21*** Cust Item ID:
Required Date: 11/30/2016 Req'd Qty: 21.00 ***21*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC3- Inspect Part Finish	0.00							
160						22			DAS 38 9-89
QC	Memo	0.03							
Quality Control									DEC 07 2016
170	Identify as per dwg & Stock Location: <u>FP-002</u>	0.00							
170						x22			
Packaging	Memo	0.03							
Packaging	LOCATION : FP002								
180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.35							
Quality Control									

16/12/18

VS 16/12/17

DAS
21
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval 	
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :						
Misidentified	☐	Past Due	☐							

Picklist Print

Wednesday, November 30, 2016 4:02:04 PM

Page 1

Work Order ID: 153991

153991

Parent Item: D3535-25

D3535-25

Parent Item Name: Wearplate Center

Start Date: 11/24/2016

Required Date: 11/30/2016

Start Qty: 21.00

Required Qty: 21.00

Comments: IPP Rev:A New Issue 07-02-15 JLM
IPP Rev:B As per Rev B 07-08-31 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S20GA		Purchased	No			100	sf	74.0210	0.51	11.27368			

M304S20GA

304/316 .040 Sheet

Dec 16 / 12 / 05

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
MAT020	73.2	
m134495	0.2	
m134982	0.1	
m135327	36.3	
m135689	36.6	
MAT20	0.821	
m133901	0.821	

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
☐ OTHER : _____					

DART AEROSPACE LTD		Work Order:	153991
Description: Wearshoe		Part Number:	D3535-25
Inspection Dwg: D3535 Rev: B		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.885	+/-0.010	1.894	1		V.D. 01	
1.937	+/-0.010	1.939	1			
1.450	+/-0.010	1.452	1			
5.450	+/-0.010	5.448	1			
10.900	+/-0.010	10.900	1			
16.350	+/-0.010	16.350	1			
21.800	+/-0.010	21.800	1			
Ø0.188	+0.005/-0.001	Ø.189	1			
12.750	+/-0.010	12.750	1			
6.75	+/-0.030	6.75	1			
6.00	+/-0.030	6.00	1			
0.300	+/-0.010	.301	1			
0.300	+/-0.010	.30	1			
0.038	+/-0.010	.036	1			

Measured by:	pc	Audited by:	DAS 9	Prototype Approval:	N/A
Date:	16/12/05	Date:	16-12-06	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	07.11.23	New Issue	KJ/EC/DD	

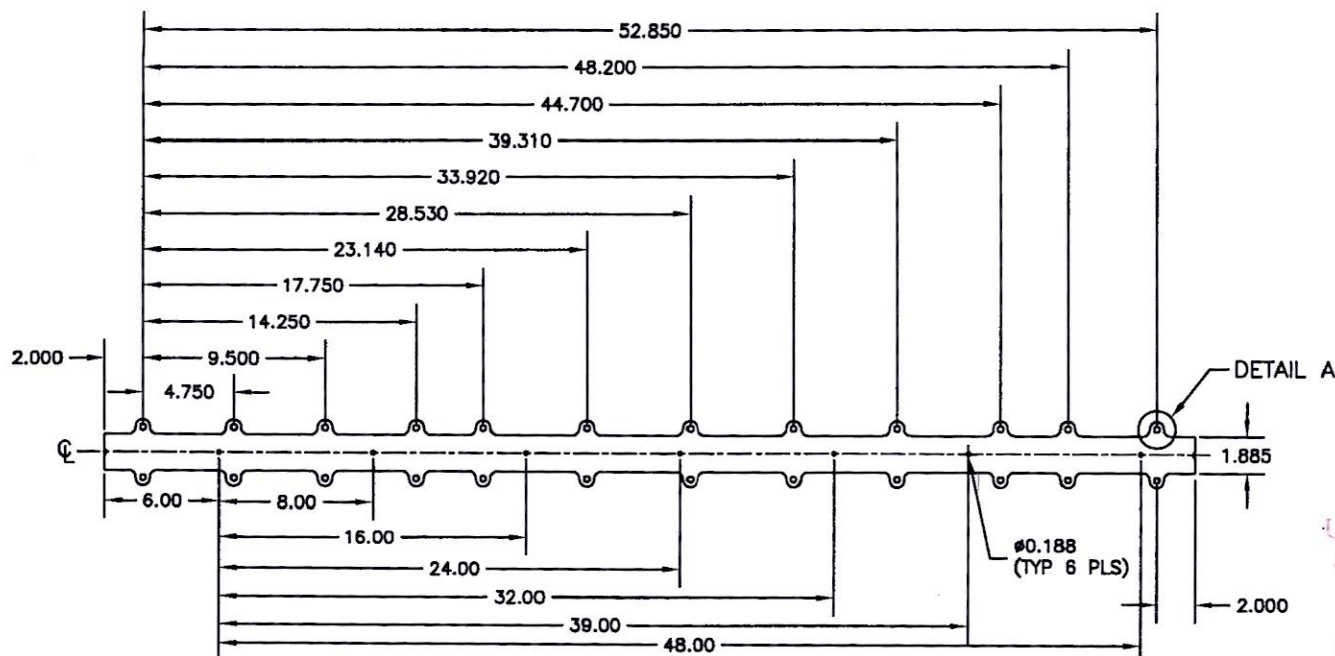
DARTRELEASED
07.04.24SHOP COPY
RETURN TO
ENGINEERINGUNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 153991

ML5

16-12-01

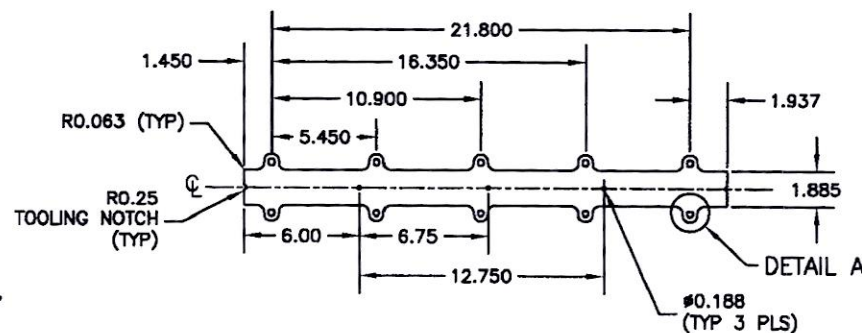
DESIGN	DRAWN BY	DART AEROSPACE USA, INC.
CB	PH	PORT HADLOCK, WA
CHECKED	APPROVED	DRAWING NO.
11	11	D3535
DATE	TITLE	SHEET 3 OF 7
07.04.17	WEARSHOE	SCALE
		1:10

**D3535-23F FLAT PATTERN****D3535-23 BEND DETAIL****UNDER REVIEW**

URF 16-638 AJS 16.08.31

NOTES

- 1) MATERIAL: AISI 304/316 SS SHEET PER AMS 5513 OR AMS 5524, 20 GAUGE (0.038 THICK) (REF DART SPEC M304S20GA)
- 2) FINISH: POWDER COAT GREY SANDTEX (4.3.5.6) PER QSI 005 4.3
- 3) PART IS SYMMETRICAL ABOUT ϕ
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES TO 0.010 MAX
- 7) IDENTIFY WITH DART P/N USING WHITE FINE POINT PAINT MARKER
- 8) SEE PAGE 7 FOR DETAILS AND SECTION

**D3535-25F FLAT PATTERN****D3535-25 BEND DETAIL**



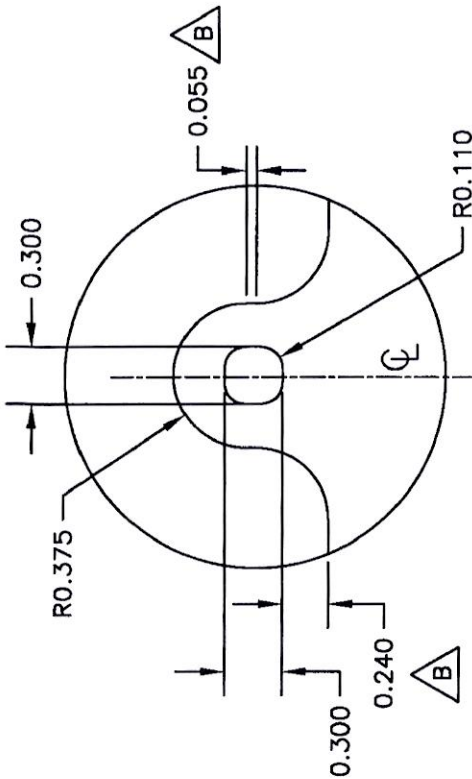
DESIGN CB	DRAWN BY PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED 	APPROVED 	DRAWING NO. D3535	REV. B SHEET 7 OF 7
DATE 07.04.17		TITLE WEARSHOE	SCALE 1:1

RELEASED

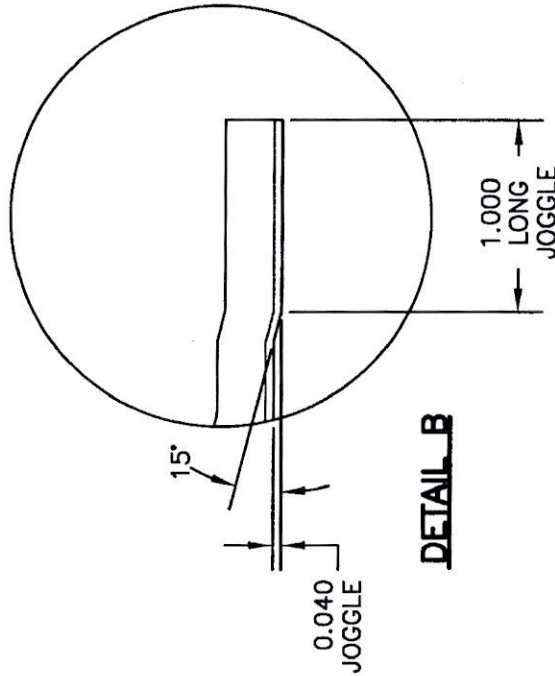
07.04.24

UNDER REVIEW

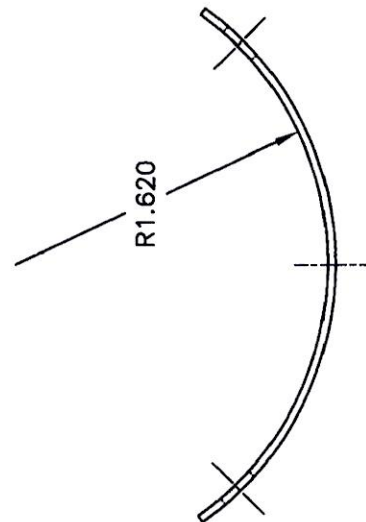
URF 16-638 AJS 16.08.31



DETAIL A



DETAIL B



SECTION C-C

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